REACTION KINETICS AND CATALYSIS LETTERS

VOLUME 35, NUMBERS 1–2 (1987)

CONTENTS

K. Tamaru: Dynamic behavior in adsorbed layers 1

J.H. Block and *N. Kruse:* Chemical surface reactions of CO on the atomic scale: Investigations by field ion microscopy and mass spectrometry 11

N. Sheppard and *C. de la Cruz:* The identification of the structures of chemisorbed species from hydrocarbons on finely divided metal catalysts by vibrational spectroscopy; application of spectra from metal single crystal surfaces and cluster componds to ethylene on Pt/SiO_2 21

G.A. Somorjai: Classification of catalytic reactions based on molecular surface science 37

V. M. Gryaznov: Dynamics of the heterogeneous catalyst-reagent system 89

M. Boudart and *F. Rumpf:* The catalytic oxidation of CO and structure insensitivity 95

A.T. Bell: CO hydrogenation over group VIII metals: New insights into factors controlling catalyst activity and selectivity 107

G. Martino: Some recent developments in the field of catalysis by metals at the IFP 123

F. Nagy and *S. Szabó:* Modification of supported metal catalysts by adsorbed metals 133

V. Haensel and *D. Rebhan:* Studies in irreversible catalysis 141

V.A. Likholobov and *V.A. Zakharov:* Application of the principles of homogeneous catalysis to the synthesis and mechanistic study of heterogeneous catalysts of olefin conversion 153

Ho Si Thoang, Hoang Dang Lanh and *Le Van Tiep:* Effect of surface reaction on activity and selectivity of supported catalysts 163

G. Öhlmann, H. Ehwald and *V.S. Musykantov:* The promoting role of silver on the supported silver salt of dodecatungstosilicic acid in the methanol-to-hydrocarbon conversion 173

D. Goupil, P. Fouilloux and *R. Maurel:* Activity and selectivity of Pt-Fe/C alloys for the liquid phase hydrogenation of cinnamaldehyde to cinnamyl alcohol 185

Kh.M. Minachev and *E.S. Shpiro:* Formation of the active surface of zeolite catalysts for hydrocarbon synthesis and conversion 195

M.S. Tzou, H.J. Jiang and *W.M.H. Sachtler:* Genesis and catalysis of metal particles in zeolites 207

P. Ratnasamy: Isomorphous substitution in zeolites – Structural and catalytic consequences 219

T. Inui: Selective conversion of light olefins to high octane-number gasoline on novel Fe-silicate catalysts 227

V.B. Kazansky: Concerted and stepwise mechanisms in heterogeneous acid catalysts 237

J.M. Thomas, C. Williams and *S. Yashonath:* Advances in the characterization of catalysts 249

R. Margraf, J. Leyrer, E. Taglauer and *H. Knözinger:* Supported oxide catalysts. Preparation and physical characterization 261

P. Putanov: Current study on catalyst component interactions 271

W. Keith Hall: The genesis and properties of molybdena-alumina and related catalysts 281

R.A. Buyanov and *O.P. Krivoruchko:* Preparation of oxide catalysts: from the studies of the mechanisms of synthesis and crystallization towards control of properties 293

B. Delmon and *P. Ruiz:* Synergy in selective catalytic oxidation 303

O.V. Krylov: Free radical processes in heterogeneous oxidation catalysis 315

R.K. Grasselli: Factors affecting selectivity and activity of oxidation catalysts 327

(continued on inside cover)

Index: 26 717

HU ISSN 0133–1736

V.D. Sokolovskii: Some principles of choosing catalysts for selective conversions of organic compounds at C–H bonds 337
J.A.S.P. Carreiro and *M. Baerns:* Catalytic conversion of methane by oxidative coupling to C_{2+} hydrocarbons 349
G.W. Keulks and *Min Yu:* The oxidative coupling of methane 361
J. Haber and *E.M. Serwicka:* The role of oxygen in catalysis 369
R.L. Burwell, Jr. and *Jong-Shik Chung:* Highly reduced Mo/Al_2O_3 catalysts 381
D.M. Shopov: Some aspects of electronic interactions in heterogeneous catalysis 391
S.A. Veniaminov, T.V. Andrushkevich and *A.V. Khasin:* Influence of reaction medium on the catalyst and kinetics of redox reactions 403
A.A. Ivanov and *B.S. Balzhinimaev:* New data on kinetics and reaction mechanism for SO_2 oxidation over vanadium catalysts 413
Yu. Sh. Matros: Unsteady performance of heterogeneous catalytic reactions 425
V.S. Muzykantov: Isotopic studies of dioxygen activation on oxide catalysts for oxidation: problems, results and perspectives 437
A.A. Vlcek: Electrocatalysis 449
H. Gerischer: Catalysis of electrochemical and photoelectrochemical reactions at semiconductor electrodes 459
K.I. Zamaraev: Modern trends in catalysis: Via studies on molecular level towards design of novel catalysts and processes 469

PRINTED IN HUNGARY
MFV nyomda, Budapest